Aga Khan University- FHS-PhD Programme
List of funded projects for potential PhD Candidates

Population & Public Health Stream						
Sr. No.	Name, Email address and Department of Primary Supervisor	Supervisory Team	Title of Project/ Source of funding	Research Funding available	Funds available until	Key Objectives of research project
1	Dr Zafar Fatmi zafar.fatmi@aku.edu Professor, Dept. of Community Health Sciences	Drs Asaad Ahmed Nafees, Bilal Usmani and Saqib ur Rehman	Climate change, ambient and household air quality and health	USD 50,000	June 2025	The overall aim of the project is to determine the health impact of air pollution (both outdoor and indoor) and climate change and its intersection.
<td colspan="7">Pre-requisites of PhD candidate applicants (graduate qualification requirement): Prior experience of Environmental Health research engagement would be beneficial however not essential.</td>
2	Dr Imran Nisar imran.nisar@aku.edu Asso. Professor, Dept. of Paediatrics & Child Health	Drs Fyezah Jehan, Shifa Habib, Bilal Usmani and Ashar Malik	Maternal Immunization Readiness in Africa & Asia (MIRNA)	USD 550,000	November 2025	The key objectives are: • Identify and implement approaches to assess MI readiness for new vaccines across the health system, including mapping of key regulatory and financing requirements. • Synthesize burden of disease data through systematic literature review and identify systems that could be supported to prospectively capture RSV/GBS disease data. • Synthesize existing work on disease modelling and cost-effectiveness of relevant vaccines in country; identify gaps and undertake additional analyses as needed. • Map professional societies within country and initiate country-based communities of practice for MI. • Identify key individuals in stakeholder groups who can represent country- and context-specific learnings in global consortiums and forums and ensure linkages are strong. • Select, adapt, and apply social science approaches to understand vaccine demand and hesitancy; use findings to develop and test interventions.

Pre-requisites of PhD candidate applicants (graduate qualification requirement):
- **Minimum two years relevant experience (Public Health)**
- **Strong background with hands-on research on topics related to immunization, health policy and systems, social sciences, economics**
- **Some experience in the following is preferred: stakeholder engagement, study design, data analysis, project management**

3	Dr Imran Nisar imran.nisar@aku.edu Asso. Professor, Dept. of Paediatrics & Child Health	Drs Fyezah Jehan and Sidrah Nausheen	A Phase II, Randomized, Observer-blinded, Active Controlled Trial to Evaluate the Safety and Immunogenicity of Hecolin® in Healthy Pregnant Women between Gestational Age 14-34 weeks and Non-Pregnant Women of 18 years of age and above	USD 3.3 million	December 2026	**Primary Objectives:** • To evaluate the pregnancy related safety events (pregnancy-related Adverse Event of Special Interest (AESI)) and Serious Adverse Event (SAE) among pregnant recipients of 2 doses of Hecolin® administered 4 weeks apart compared to placebo recipients. • To demonstrate immune non-inferiority of pregnant recipients compared to non-pregnant recipients of 2 doses of Hecolin® administered 4 weeks apart as measured by the Geometric Mean Concentration (GMC) of anti-HEV IgG at 4 weeks following the second dose. **Secondary objectives:** • To demonstrate immune non-inferiority of pregnant recipients compared to non-pregnant recipients of 2 doses of Hecolin® administered 4 weeks apart as measured by the Seroconversion rate (antibody response greater than four times or more increase of anti-HEV IgG in paired sera) at 4 weeks following the second dose. • To evaluate the neonatal and infant safety events (neonatal and infant AESI/SAE) among neonates/infants born to recipients of 2 doses of Hecolin® administered 4 weeks apart during pregnancy compared to placebo recipients. • To evaluate the safety events (immediate/solicited/unsolicited) among pregnant recipients of 3 doses of Hecolin® (2 doses administered 4 weeks apart during pregnancy and 1 dose administered after delivery and at least 20 weeks following the second dose) compared to pregnant recipients of 3 doses of placebo. • To demonstrate immune non-inferiority of pregnant recipients of 3 doses of Hecolin® (2 doses administered 4 weeks apart during pregnancy and 1 dose administered after delivery at least 20 weeks following the second dose) compared to non-pregnant

						recipients of 3 doses of Hecolin® (0, 1 and 6 months) as measured by the i) GMC , and ii) SCR (antibody response greater than four times or more increase of anti-HEV IgG in paired sera) of anti-HEV IgG at 4 weeks following the third dose.

| 4 | Dr Rubina Barolia rubina.barolia @aku.edu Professor, School of Nursing and Midwifery | Drs Faisal Ismail Wasim, Salma Rattani and Pammla Petrucka | Developing and testing of Home-Based Palliative Care intervention (HBPC) using simulation-based training for heart failure patient management in Pakistan | The research s supported from the primary supervisor's endowment funds | | The key objectives are:
• Describe the views of health care providers regarding needs of palliative care for HF patients
• Develop contextual relevant home-based palliative care (HBPC) interventions through simulation-based education for informal and formal care givers
• To determine the efficacy of the HBPC intervention on HRQOL and symptoms frequency and distress of HF patients in the intervention group as compared to the HF patients in the attention control group at pre and eight weeks post-intervention via Quality-of-Life Inventory
• To determine the following feasibility outcomes of the intervention: acceptability, appropriateness, cost, feasibility, and fidelity |

| 5 | Dr Saleema Gulzar Saleema.gulzar @aku.edu Associate Professor, School of Nursing and Midwifery | Drs Shariq Khoja and Hina Velji, | Beyond the Brick and Mortar, Revolutionizing School Health to Promote Student Wellness through Digital Solutions at Schools in Karachi, Pakistan | PKR 5.5 million | March 2026 | The key objectives are:

• To re-evaluate and recommend a new scoop for School health promotion by identifying the use of digital health tools & technology, ethical considerations, opportunities and risks and key partners.
• To define the role of School Health practitioners/ Nurses in the new Digital School Health field.
• To recommend new research and training needs for teachers, nurses and other stakeholders. |

6	Dr Laila Ladak laila.ladak@aku.edu Associate Professor, School of Nursing and Midwifery	Dr Salman Kirmani	Exploring Experiences, Challenges, and Opportunities in Down Syndrome Care: A Mixed-Methods Study in Pakistan	USD 5000	December 2029	The key objectives are: • Patient and Family Experiences: To explore the lived experiences of children and adults with Down Syndrome and their families, with a focus on challenges, coping mechanisms, and support systems. • Parental Literacy and Impact: To evaluate how parental literacy levels influence their understanding of Down Syndrome, care-seeking behaviors, and ability to manage their child's condition effectively. • Health System Analysis: To assess the availability, accessibility, and effectiveness of existing healthcare resources, policies, and practices for individuals with Down Syndrome in Pakistan. • Stakeholder Perspectives: To gather insights from healthcare providers, policymakers, and educators to identify existing gaps, challenges, and opportunities for improving Down Syndrome care. • Intervention and Impact: To develop and implement an educational program for parents aimed at enhancing their knowledge and care practices and to assess its impact on family well-being, parental confidence, and patient outcomes
Pre-requisites of PhD candidate applicants (graduate qualification requirement): Clinical experience in general and dealing with families having children with DS and/or other genetic disorders would be an asset.						
7	Dr Andrew Prendergast andrew.prendergast@aku.edu Visiting Faculty, Department of Peads	Drs Fyezah Jehan, Imran Nisar and Waqasuddin Khan	Nutritional support and prophylaxis of azithromycin for pregnant and lactating women to improve birth outcomes in peri-urban slums of Karachi, Pakistan (Mumta Pregnant Women and Lactating Women Trials)	USD 50,000	December 2026	The key objectives are: • To investigate inflammatory biomarkers and immune dysregulation in malnourished mothers and their infants, examining their role in gut permeability, systemic inflammation, and growth outcomes. • 2. To characterize the relationship between malnutrition and infection by analyzing pathogen load, antimicrobial resistance patterns, and immune responses in pregnant and lactating women, and their infants. • 3. To explore disruptions in key nutrient absorption and metabolic pathways in malnutrition, assessing biomarkers of micronutrient status, intestinal function, and energy homeostasis

8	Dr Zahra Hoodbhoy zahra.hoodbhoy@aku.edu Associate Professor, Department of Peads	Drs Emily Smith, Imran Nisar and Fyezah Jehan	Pregnancy Risk, Infant Surveillance, and Measurement Alliance (PRISMA)	USD 3.6 million	Dec 2025 (There is an extension underway which will be finalized by June 2025)	The key objectives are: • To improve the global understanding of key risk factors or vulnerabilities for morbidity and mortality among pregnant women and mother-infant pairs during antenatal care and postnatal care (up to one year). • To provide population-based baseline estimates of key maternal and child health outcomes. This may inform future interventions and randomized trial study designs. • To collect data to enable the application of novel analytical techniques (i.e., machine learning) to create risk prediction tools.